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PATENT COOPERATION TREATY

CONFIRMATION

From the:
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

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30 Bideford Road
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Singapore 229922

RECEIVED
28 NOV 2003

PCT
WRITTEN OPINION
(PCT Rule 66)

Date of mailing
(day/month/year) 18 NOV 2003

Applicant's or agent's file reference
1304.P004PCT/GDL/cch

REPLY DUE within ONE MONTH
from the above date of mailing

International Application No.
PCT/SG03/00063

International Filing Date (day/month/year)
28 March 2003

Priority Date (day/month/year)
3 April 2002

International Patent Classification (IPC) or both national classification and IPC
Int. Cl. ⁷ G01N 21/01, 21/77, 21/94, G01J 3/42

Applicant

NTU VENTURES PRIVATE LIMITED et al

DOCKETED ()
duedate:

1. This written opinion is the **SECOND** drawn by this International Preliminary Examining Authority.
2. This opinion contains indications relating to the following items:
 - I ☒ Basis of the opinion
 - II ☐ Priority
 - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - IV ☐ Lack of unity of invention
 - V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - VI ☐ Certain documents cited
 - VII ☒ Certain defects in the international application
 - VIII ☒ Certain observations on the international application
3. The **FINAL DATE** by which the international preliminary examination report must be established according to Rule 69.2 is:
3 August 2004
4. The applicant is hereby invited to reply to this opinion.

When? See the Reply Due date indicated above. However, the Australian Patent Office will not establish the Report before the earlier of (i) a response being filed, or (ii) one month before the Final Date by which the international preliminary examination report must be established. The Report will take into account any response (including amendments) filed before the Report is established. If no response is filed by 1 month before the Final Date, the international preliminary examination report will be established on the basis of this opinion.

Applicants wishing to have the benefit of a further opinion (if needed) before the report is established should ensure that a response is filed at least 3 months before the Final Date by which the international preliminary examination report must be established.

How? By submitting a written reply, accompanied, where appropriate, by amendments, according to Rule 66.3. For the form and the language of the amendments, see Rules 66.8 and 66.9.

Also For an additional opportunity to submit amendments, see Rule 66.4. For the examiner's obligation to consider amendments and/or arguments, see Rule 66.4bis. For an informal communication with the examiner, see Rule 66.6.

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SUSAN T. PRING
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I. Basis of the opinion**1. With regard to the elements of the international application:***

- ☐ the international application as originally filed.
- ☒ the description, pages 1-24, as originally filed,
pages , filed with the demand,
pages , received on with the letter of
- ☒ the claims, pages 25-28, as originally filed,
pages , as amended under Article 19,
pages , filed with the demand,
pages 1,2, received on 20 October 2003 with the letter of 20 October 2003
- ☒ the drawings, pages 1/6-6/6, as originally filed,
pages , filed with the demand,
pages ; received on with the letter of
- ☐ the sequence listing part of the description:
pages , as originally filed
pages , filed with the demand
pages , received on with the letter of

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the written opinion was drawn on the basis of the sequence listing:

- ☐ contained in the international application in printed form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/fig.

5. ☐ This opinion has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

** Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed"*

V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	YES
	Claims 1-24	NO
Inventive step (IS)	Claims	YES
	Claims 1-24	NO
Industrial applicability (IA)	Claims 1-24	YES
	Claims	NO

2. Citations and explanations

Novelty and Inventive Step

US 6 103 535 discloses an optic fibre with a tapered region whose outer protective coating has been removed has a coating for chemically bonding with fluorophores. The fluorescence generated when light is transmitted in the fibre is coupled back into the fibre for detection. Therefore claims 1-19 cannot be said to be novel or to have an inventive step.

EP 75 353 discloses an optic fibre with a coating specifically reactive to the analyte being determined in contact with its core, the amount of analyte being determined by correlation with a function of time and light transmitted. See claim 3 and fig 10b. Therefore claims 1-19 cannot be said to be novel or to have an inventive step.

GB 2 103 786 discloses an optic fibre core with a chromophore bonded to its surface with is responsive to the parameter being monitored. The core has a porous flattened end with a reflective layer at its end for light to remerge altered in its colour or fluorescent content. Therefore claims 1-19 cannot be said to be novel or to have an inventive step.

WO 98/54573 discloses a tapered optic fibre with a portion of cladding removed to allow the core to contact a coating layer for chemically reacting with fluorophores. Therefore claims 1-19 cannot be said to be novel or to have an inventive step.

US 5 854 863 discloses fibre with their cladding removed being treated with fluoropolymers for the detection of biological compounds by the alteration of conveyed light. Therefore claims 1-19 cannot be said to be novel or to have an inventive step.

The Attorney's comments regarding the above citations are noted, however it is not apparent what difference the Attorney is trying to enlarge upon. A chemical or biological material either in or attached thereto on a coating of a fibre is associated as the citations disclose is a precursor associated with a coating as defined by the claim. The material reacts or transforms by giving off light which equates to a spectroscopically detectable indicator. It is not apparent that transformable or precursor have specific definitions that would include a chemical or biological transformation to another compound of suitably different form to be called another class of material. If this is so please define the meanings of the terms further or if they are known in the art to have this meaning please supply suitable reference to their well-known meaning in the art.

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

The new substitute claim pages are not numbered sequentially from the last page of the claims already on file ie they should have the page numbers 29,30.

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

Claims 1, 11 and 13 are not clear with regard to the precursor being 'associated' with the coating. Is it another layer or part of the defined layer?